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## A new species of *Phloeocharis* MANNERHEIM from Spain, with a note on *P. brachyptera* SHARP (Coleoptera: Staphylinidae: Phloeocharinae)

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**A b s t r a c t :** *Phloeocharis gredosensis* nov.sp. (Central Spain: Sierra de Gredos) is described, illustrated, and distinguished from other micropterous *Phloeocharis* species known from Spain. Material of *P. brachyptera* SHARP, 1873 from various regions in the Cordillera Cantabria and the western Pyrenees (northern Spain) is studied. Based on an examination of the male sexual characters, the previously established synonymy of *P. umbratilis* EPPELSHEIM, 1880 with *P. brachyptera* is confirmed. The male sexual characters of *P. brachyptera* and *P. microptera* FAUVEL, 1898 are illustrated. *Phloeocharis* MANNERHEIM, 1830 now includes 45 species, twelve of which have been recorded from Spain.

**K e y w o r d s :** Coleoptera, Staphylinidae, Phloeocharinae, *Phloeocharis*, West Palaearctic region, Spain, taxonomy, new species, new records.

### Introduction

The genus *Phloeocharis* MANNERHEIM, 1830 previously included 44 species, 43 of which are native in the West Palaearctic region and one in the Nearctic region. The most common and widespread West Palaearctic species, *P. subtilissima* Mannerheim, 1830, is adventive in North America (ASSING 2003, 2004, 2006a, b; FELDMANN 2004; HERMAN 2001). The species are currently assigned to two subgenera, the nominate subgenus (28 species) and *Scotodytes* SAULCY, 1865 (16 species). The status of *Scotodytes*, however, is highly doubtful: it is based solely on one morphological character (completely reduced eyes) and most likely renders the subgenus *Phloeocharis* paraphyletic.

The diversity hotspot in the West Palaearctic region is the West Mediterranean from the Pyrenees southwards to Northwest Africa. Disregarding *P. subtilissima*, ten species have been recorded from Spain, five of the subgenus *Phloeocharis* and five of *Scotodytes*, all of them wingless and locally endemic. The five species of the nominate subgenus are distributed in the Pyrenees (one species), the Cordillera Cantabrica in northern Spain (one species), Málaga and Córdoba in southern Spain (two species), and the Balears (one species) (ASSING 2003, 2006b; FELDMANN 2004; HERMAN 2001; SCHEERPELTZ 1951).

The aedeagi of the *Phloeocharis* species with an aedeagus of the *P. subtilissima* type are subject to very little interspecific variation and generally poor in distinctive characters,

particularly so in species without sclerotized structures in the internal sac of the aedeagus, thus rendering a differential diagnosis difficult. Except for *P. brachyptera* SHARP, 1873, all the species of the nominate subgenus recorded from Spain fall into this category.

The present paper was initiated by Spanish material of two wingless species of *Phloeocharis* sensu strictu collected and made available to me by Tim Struyve, Mechelen. One of the species was collected in the Sierra de Gredos in Central Spain and had been recorded from there as *P. microptera* FAUVEL, 1898 (STRUYVE 2012), a micropterous species previously known only from the Eastern Pyrenees. The other species had been found in Asturias, in the western Cordillera Cantabrica, from where *P. umbratilis* EPPELSHEIM, 1880, a junior synonym of *P. brachyptera*, had been described. This synonymy had been established solely based on external characters.

### Material, methods, and measurements

The material treated in this study is deposited in the following collections:

cAss..... author's private collection

cFel ..... private collection Benedikt Feldmann, Münster

cStr ..... private collection Tim Struyve, Mechelen

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). The image of the forebody was created using a photographing device constructed by Arved Lompe (Nienburg) and CombineZ software. A digital camera (Nikon Coolpix 995) was used for the remaining photographs.

Body length was measured from the anterior margin of the mandibles to the apex of the abdomen, the length of the forebody from the mandibles to the posterior margin of the elytra, the length of the elytra along the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the median lobe of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. The "parameral" side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

### Results

#### *Phloeocharis microptera* FAUVEL, 1898 (Figs 1-7)

*Phloeocharis microptera* FAUVEL, 1898: 156.

**M a t e r i a l   e x a m i n e d :** France: 2♂♂, Pyrénées-Orientales, Canigou, 2710 m, crête du Barbet, sifted from grass roots, 11.VI.1999, leg. Tronquet (cAss).

**C o m m e n t :** The original description is based on an unspecified number of syntypes from "Pyrénées-Orientales: Canigou, au tunnel de Belage" (FAUVEL 1898). The above specimens are in full agreement with the details indicated in the description and were collected close to the type locality, so that there is little doubt that they are conspecific

with the type material. The habitus and the male sexual characters are illustrated in Figs 1-7; for a colour image of the habitus see TRONQUET (2006). *Phloeocharis microptera* is endemic to the eastern Pyrenees; the record from the Sierra de Gredos (STRUYVE 2012) refers to a previously undescribed species.

***Phloeocharis gredosensis* nov.sp.** (Figs 8-13)

**Type material:** Holotype ♂: "E - Sierra de Gredos, 40°15'N, 5°15'W, 2200 m, 2.V.2009, leg. T. Struyve / Holotypus ♂ *Phloeocharis gredosensis* sp.n. det. V. Assing 2014" (cAss). Paratype ♂: same data as holotype (cStr).

**E t y m o l o g y :** The specific epithet is an adjective derived from Sierra de Gredos, the mountain range where the type locality is situated.

**D e s c r i p t i o n :** Body length 1.8-2.3 mm; length of forebody 0.85-0.95 mm. Habitus as in Fig. 8. Coloration: body brown to dark-brown, with the apex of the abdomen paler reddish; legs reddish; antennae yellowish-red.

Head with distinct microsculpture composed of isodiametric meshes and with fine and sparse, barely noticeable punctation. Eyes weakly convex, composed of approximately 15-20 ommatidia. Antennae relatively slender, approximately 0.5 mm long.

Pronotum 1.35-1.40 times as wide as long and 1.05-1.10 times as broad as head, broadest approximately in the middle; posterior angles obtusely marked; microsculpture composed of isodiametric meshes, variable, pronounced (rendering surface nearly matt) to moderately distinct (surface with some shine); punctation moderately dense, interstices on average slightly narrower than diameter of punctures.

Elytra approximately 0.8 times as long as pronotum; microsculpture shallow, but noticeable; punctation fine and moderately dense. Hind wings reduced.

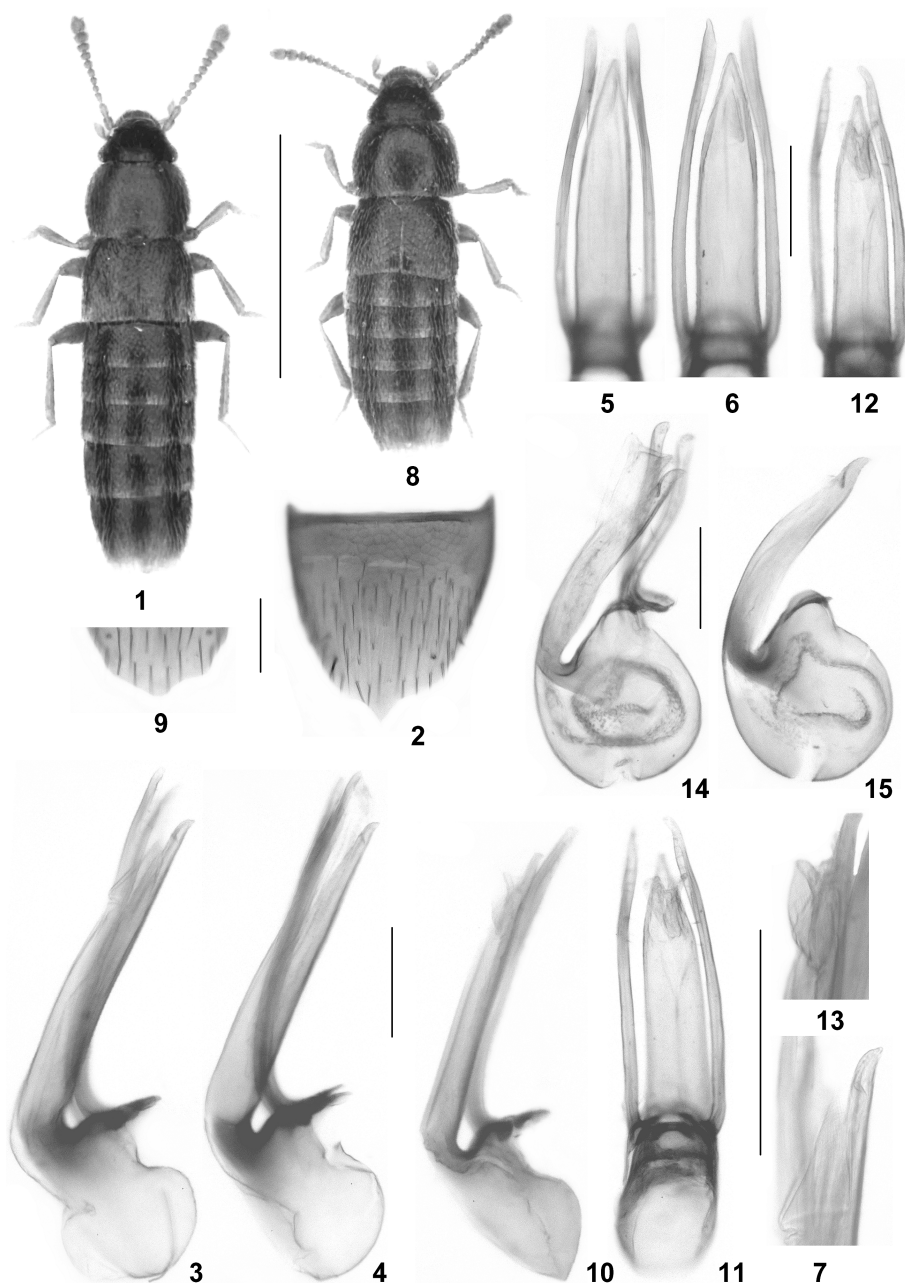
Abdomen approximately as broad as elytra, with fine punctation and very shallow microsculpture; posterior margin of tergite VII without palisade fringe.

♂: posterior margin of sternite VIII obtusely angled in the middle (Fig. 9); aedeagus (Figs 10-13) 0.36-0.39 mm long, very slender; ventral process thin (lateral view) and apically acute (ventral view), and obliquely truncate (lateral view); parameres thin, weakly dilated subapically, slightly extending beyond apex of ventral process.

**C o m p a r a t i v e n o t e s :** The new species is distinguished from geographically close micropterous congeners of the nominate subgenus as follows:

from the similar *P. microptera* by slightly smaller body size, a slightly more transverse pronotum (*P. microptera*: approximately 1.30 times as broad as long), relatively shorter elytra (*P. microptera*: approximately 0.85 times as long as pronotum), the differently shaped male sternite VIII (*P. microptera*: acutely pointed posteriorly; see Fig. 2), the smaller aedeagus with a differently shaped apex of the ventral process (*P. microptera*: aedeagus 0.42 mm long; apex in ventral view more gradually tapering and in lateral view not truncate; see Figs 3-7);

from *P. brachyptera* by slightly larger body size, longer and more slender antennae, less dense punctation on the pronotum, distinctly longer and less shiny elytra, and by the longer aedeagus of completely different shape (cf. Figs 14-15);



**Figs 1-15:** *Phloeocharis microptera* (1-7), *P. gredosensis* (8-13), and *P. brachyptera* (14-15): (1, 8) habitus; (2, 9) (posterior portion of) male sternite VIII; (3-4, 10, 14-15) aedeagus in lateral view (15 with parameres removed); (5-6, 11-12) (apical portion of) aedeagus in ventral view; (7, 13) apex of ventral process in lateral view. Scale bars: 1, 8: 1.0 mm; 2-7, 9-15: 0.1 mm.

from *P. baenai* ASSING, 2006 (Córdoba) by the larger and broader body (pronotum much more transverse), the less pronounced microsculpture on the pronotum and the elytra, the distinctly shorter elytra, and by the shape of the slightly longer aedeagus;

from *P. bermejae* ASSING, 2003 (Málaga: Sierra de Bermeja) by smaller size, much darker coloration (*P. bermejae*: body pale-reddish), and by the much shorter aedeagus (*P. bermejae*: median lobe approximately 0.5 mm long);

from *P. estrelae* ASSING, 2003 (Portugal: Serra da Estrela) by the larger and broader body, distinctly darker coloration (*P. estrelae*: body pale-reddish), relatively longer and more slender antennae, a more transverse pronotum, and by the larger and differently shaped aedeagus (*P. estrelae*: median lobe approximately 0.3 mm long).

For illustrations of *P. baenai*, *P. bermejae*, and *P. estrelae* see ASSING (2003, 2006b).

**Distribution and natural history:** The type locality is situated in the Sierra de Gredos, Central Spain. The specimens were sifted under *Cytisus* near snow at an altitude of 2200 m.

### ***Phloeocharis brachyptera* SHARP, 1873 (Figs 14-15)**

*Phloeocharis brachyptera* SHARP, 1873: 267 f.

*Phloeocharis umbratilis* EPPELSHEIM, 1880: 288 f.

**Material examined:** Spain: Navarra: 1♂, Puerto de Ibañeta, Orzanurieta, 43°01'N, 1°17'W, 1550 m, 28.V.1998, leg. Hetzel (cFel). Cantabria: 2♂♂, 3 exs., Picos de Europa, Valle d. Salvoron, Espinama, 43°07'N, 4°45'W, 27.VII.1972, leg. Meybohm (cAss); 2 exs., Picos de Europa, Espinama to Puerto de Aliva, 29.VII.1972, leg. Meybohm (cAss). Castilla y León: 1♂, 2♀♀, ca. 50 km WNW Aguilar de Campoo, S Peña Prieta, 42°59'N, 4°45'W, 1500 m, 13.VII.2003, leg. Assing (cAss). Asturias: 3♂♂, 2♀♀, 1 ex., Puerto de Connio, 43°02'N, 6°46'W, 1300 m, 16.IV.2013, leg. Struyve (cStr, cAss).

**Comment:** The known distribution of this species is confined to North Spain and ranges from the western Pyrenees across all of the Cordillera Cantabrica eastwards to Asturias. A comparison of the material from Asturias with that from localities in the western Cordillera Cantabrica revealed that the specimens from Asturias are on average slightly larger and have slightly darker legs and antennae, but the aedeagus is practically identical. The aedeagus of a male from Picos de Europa is illustrated in Fig. 14, that of a male from Asturias in Fig. 15. Hence, the previously established synonymy of *P. umbratilis* ERICHSON with *P. brachyptera* is confirmed.

### **Acknowledgements**

I am indebted to Tim Struyve (Mechelen) for the permission to retain the holotype of *P. gredosensis* and to Marc Tronquet (Molitz-Les-Bains) for the generous gift of two specimens of *P. microptera*. Benedikt Feldmann (Münster) proof-read the manuscript.

### **Zusammenfassung**

*Phloeocharis gredosensis* nov.sp. (Zentralspanien: Sierra de Gredos) wird beschrieben, abgebildet und von anderen aus Spanien bekannten brachypteren *Phloeocharis*-Arten unterschieden. Material von *P. brachyptera* SHARP, 1873 aus verschiedenen Regionen der Cordillera Cantabria und den

Westpyrenäen (Nordspanien) wird untersucht. Die Synonymie von *P. umbratilis* EPPELSHEIM, 1880 mit *P. brachyptera* wird bestätigt. Die männlichen Geschlechtsmerkmale von *P. brachyptera* und *P. microptera* FAUVEL, 1898 werden abgebildet. *Phloeocharis* MANNERHEIM, 1830 enthält damit derzeit 45 Arten, von denen zwölf aus Spanien nachgewiesen sind.

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